

Logical View of an End User Accessing the World-Wide-Web

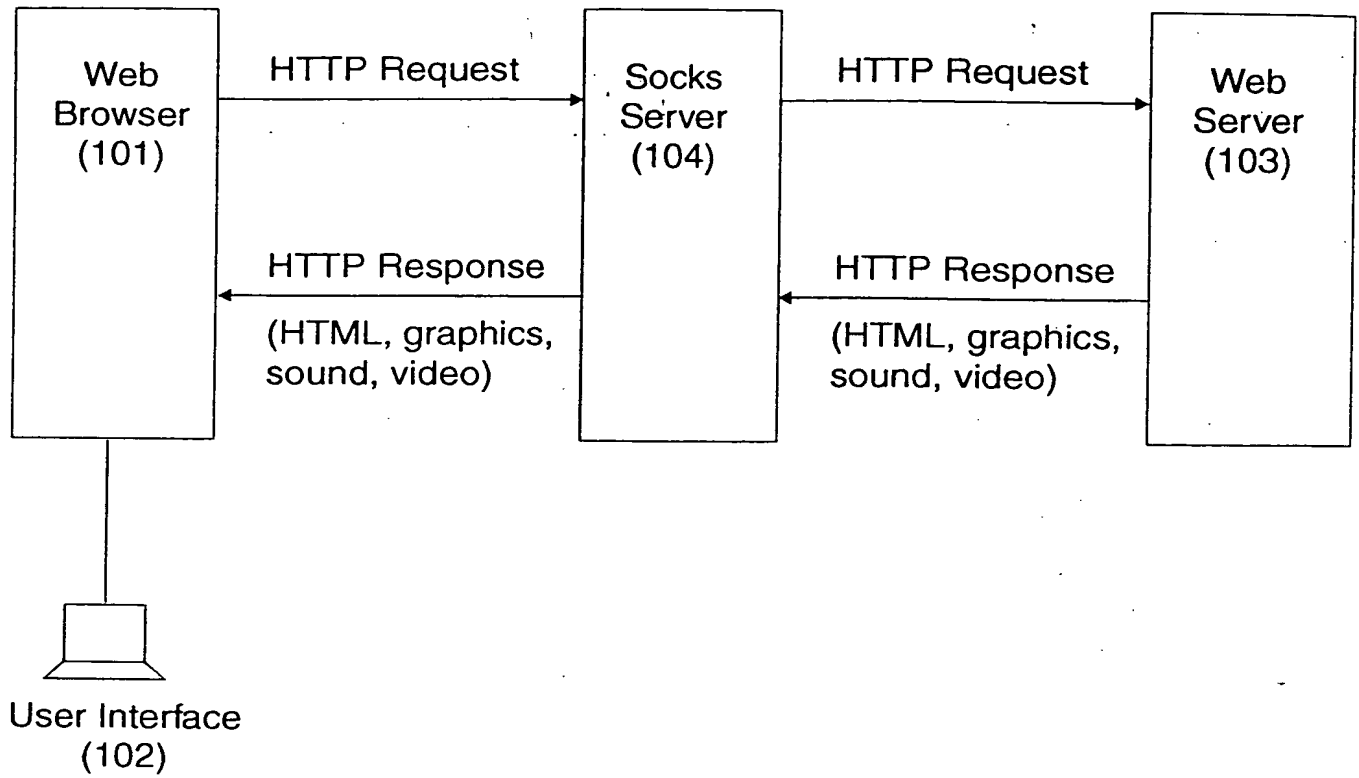


FIG. 1

General Physical View of an End User Accessing the World-Wide-Web

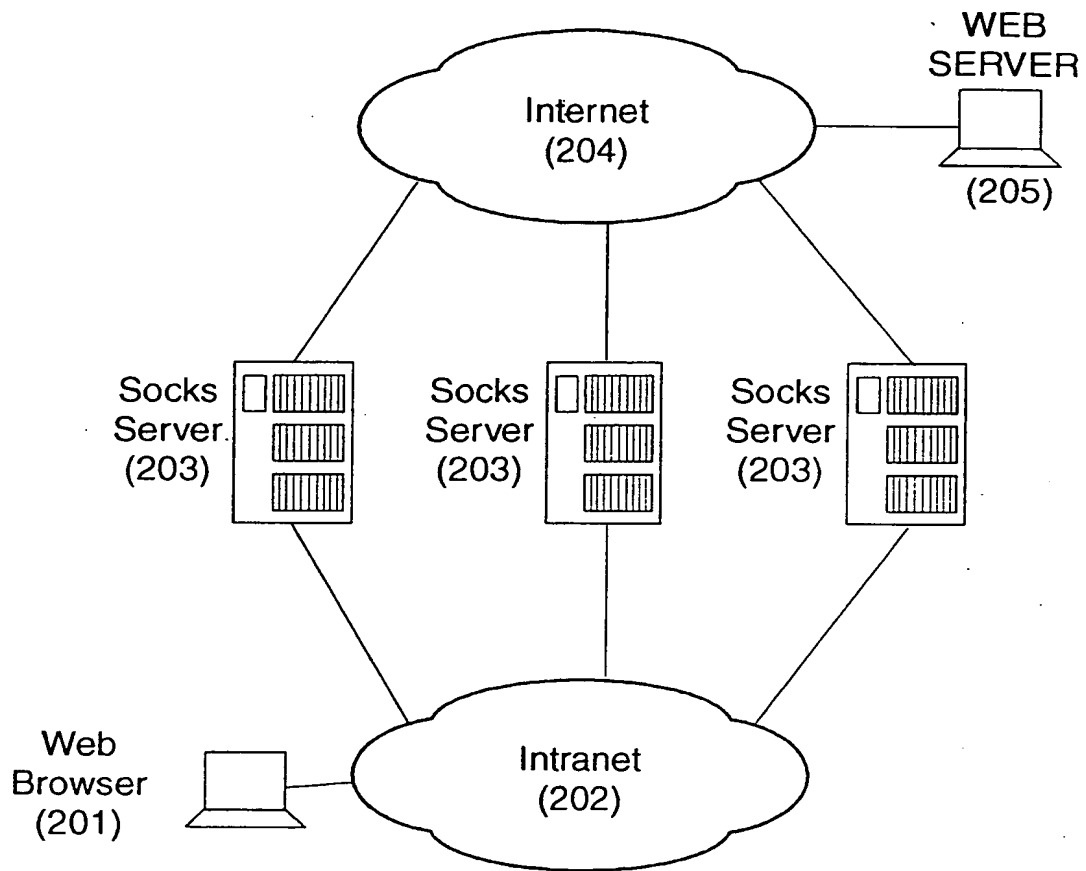


FIG. 2



View of an End User Accessing the Web through a Socks Server

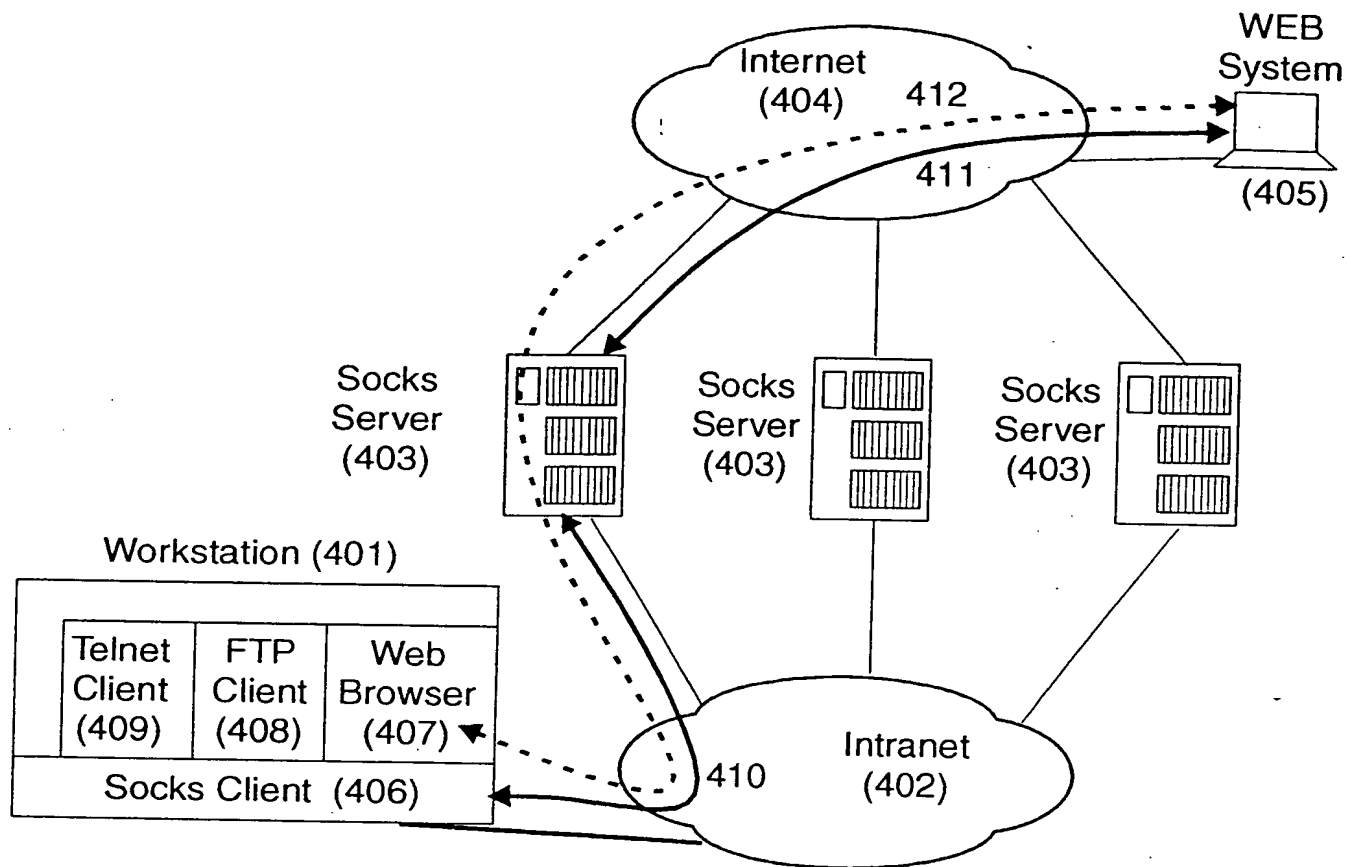


FIG. 4

Dispatcher System for Socks Traffic

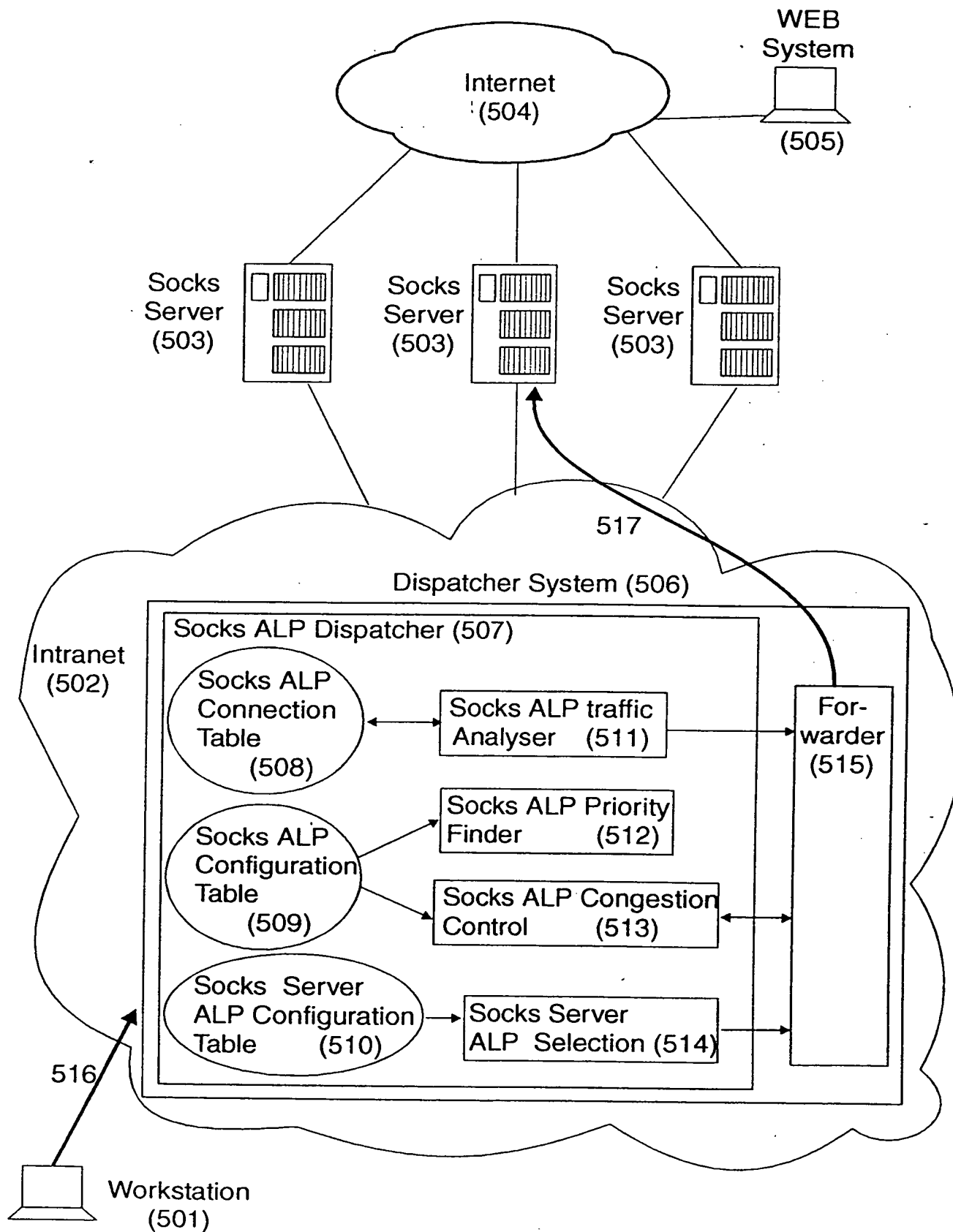


FIG. 5

Internal Tables of the Socks ALP Dispatcher System

Socks ALP Configuration Table
(601)

Record (602)
Application_Level_Protocol (603)
Socks_Traffic_Priority (604)
Discard_Eligible (605)
(602)
(602)
.
.
.

Socks Server ALP Configuration Table
(606)

Record (607)
Socks_Server_Identifier (608)
Socks_Server_Capacity (609)
Socks_Server_ALP_List (610)
(606)
(606)
.
.
.

Socks ALP Connection Table
(611)

Record (612)
Cx_Source_IP_Address (612)
Cx_Source_Port (609)
Cx_ALP (610)
Record (612)
Record (612)
.
.
.

FIG. 6

Socks ALP Traffic Analyser

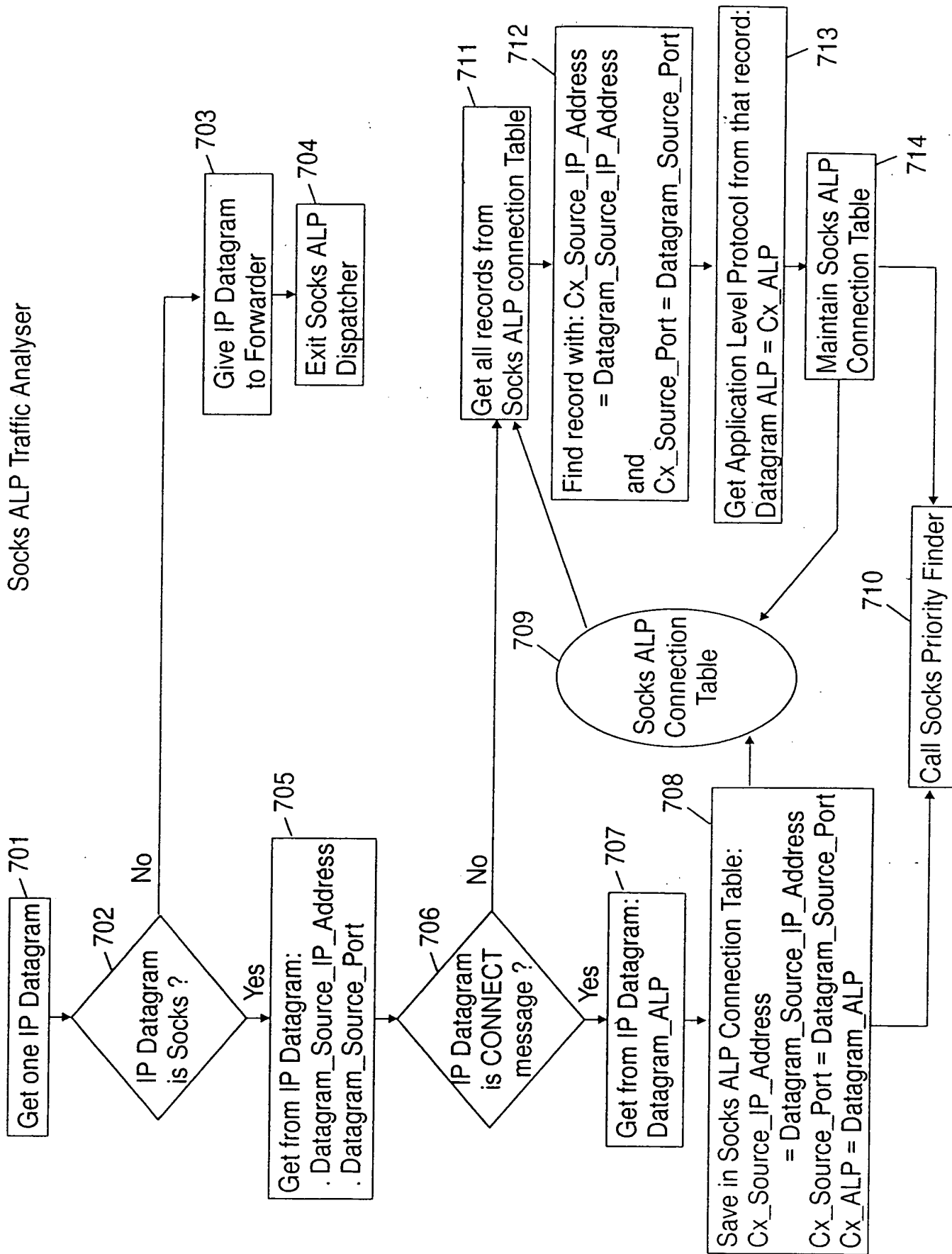


FIG. 7

Socks Priority Finder

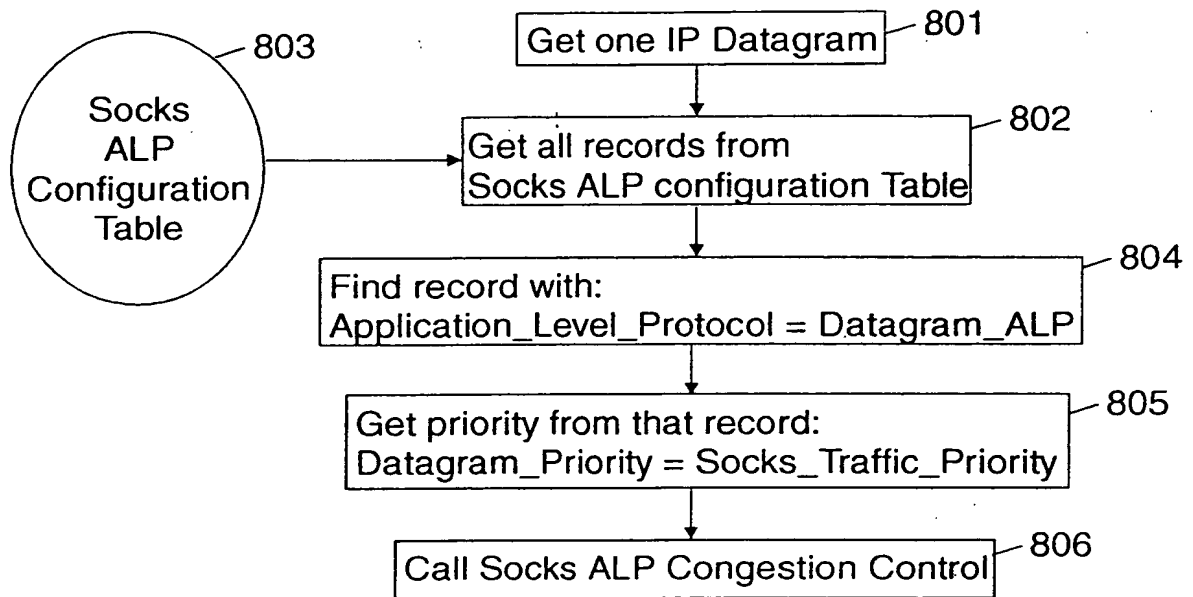


FIG. 8


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graph TD
    903((Socks ALP Configuration Table)) --> 902[Get all records from Socks ALP Configuration Table]
    902 --> 904[Find lis of records (List_ALP_D) when Discard_Eligible = YES]
    904 --> 905{Congestion condition ?}
    905 -- No --> 901[Get one IP Datagram]
    905 -- Yes --> 906[Get Datagram_Priority and Datagram_ALP of the received IP Datagrams]
    906 --> 907[Get Datagram_Priority and Datagram_ALP of all IP Datagrams not yet sent]
    907 --> 908[Select the list (List D) of IP Datagrams with: . Lowest Datagram_Priority . Datagram_ALP is contained in List_ALP_D]
    908 --> 912{List D empty ?}
    912 -- No --> 905
    912 -- Yes --> 913[Discard all IP Datagrams with lowest Datagram_Priority]
    913 --> 901
```

The flowchart illustrates the congestion control process for Socks ALP. It begins with a 'Socks ALP Configuration Table' (903) which leads to 'Get all records from Socks ALP Configuration Table' (902). This step leads to 'Find lis of records (List_ALP_D) when Discard_Eligible = YES' (904). A decision diamond (905) checks the 'Congestion condition ?'. If 'No', it proceeds to 'Get one IP Datagram' (901). If 'Yes', it proceeds to 'Get Datagram_Priority and Datagram_ALP of the received IP Datagrams' (906), then 'Get Datagram_Priority and Datagram_ALP of all IP Datagrams not yet sent' (907), and then 'Select the list (List D) of IP Datagrams with: . Lowest Datagram_Priority . Datagram_ALP is contained in List_ALP_D' (908). A second decision diamond (912) checks 'List D empty ?'. If 'No', it loops back to the 'Congestion condition ?' diamond (905). If 'Yes', it proceeds to 'Discard all IP Datagrams with lowest Datagram_Priority' (913), which then leads back to 'Get one IP Datagram' (901). A final box 'Discard in Lis' is shown at the end of the flow.

FIG. 9

Socks Server ALP Selection

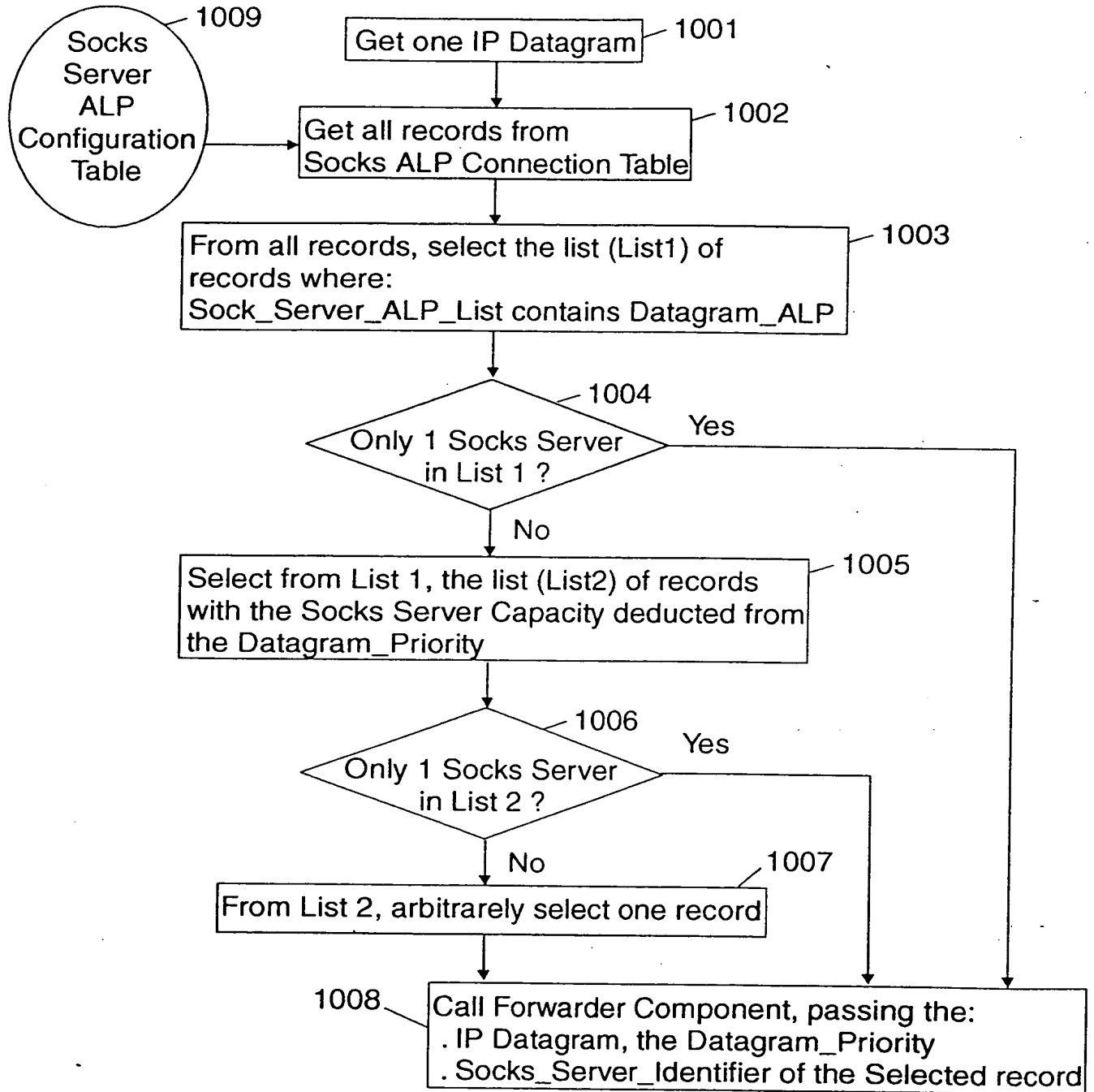


FIG. 10